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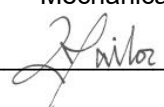
<http://www.dartaerospace.com>


COMPONENT MAINTENANCE MANUAL

CMM-T-0001

DART Long Line

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Revision No.	Issue Date	Description	Date Inserted	Inserted By
A	04.01.19	New Issue	-	-
B	04.08.19	Added option without Protective Jackets. Added Long Line life limit. Updated Long Line Entry Into Service date Identification. Updated Section 1.4, 1.5, 1.6, 2.1, 2.2, 3.2, 3.3, 3.6, 6.3, Appendix B & C.	04.08.19	MBB

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CHAPTER 1 – INTRODUCTION

1.0 SCOPE

This Component Maintenance Manual covers the DART Aerospace Long Lines DALL-#-#-#. These instructions are to be referred to for inspection and maintenance when the DART Long Lines are in service on the rotorcraft.

This manual is for DALL-#-#-# Long Lines but can be used as reference only for customers with P-XXXX. Refer to DART Synthetic Plasma® Long Lines Owner's Manual for additional P-XXXX information.

1.1 ARRANGEMENT

There are no abbreviations, acronyms, or symbolization, which are not common to the aviation industry in this manual.

Units of measurement are expressed in imperial and metric values.

No other maintenance instructions for any product or appliance is inferred or addressed herein.

1.2 DISTRIBUTION

Any changes in the content or revision level of this document have been made available to operators at www.dartaerospace.com

All changes will be recorded in the Record of Revisions page at the front of this manual.

1.3 COMPATIBILITY

Compatibility of this product installation with the aircraft is the **responsibility of the installer**. Ensure that this product does not conflict with a previous modification, or other external load that is being used.

1.4 SYSTEM DESCRIPTION

DART Aerospace Long Lines are constructed from high quality materials and are designed for ease of use.

- 8 Times lighter and 20% stronger than wire rope & will not kink
- Chemical resistant: fuel, hydraulic oil, etc...
- High strength, low stretch
- All Long Lines are preloaded & stretched
- 7:1 Safety Factor

Each DART Aerospace Long Line includes the following: Ultra High Molecular Weight Polyethylene (UHMWPE) rope, optional Outer and Inner Protective Jackets, Heavy-duty Thimbles, optional Electrical Wire with a 6 ft. (1.83 m) pig tail at each end, four (4) ID tags, and a Carry Bag.

Each Long Line ID tagged, and includes a Certificate of Conformance issued from our manufacturing facility.

This Component Maintenance Manual (CMM) is supplied with each Long Lines, and includes inspection/maintenance recommendations.



DART Aerospace Long Line

1.5 COMPONENT DESCRIPTION

ROPE

DART Aerospace Long Line rope are made of Ultra High Molecular Weight Polyethylene (UHMWPE). The 12-Strand brand construction has a very low stretch and is both light weight and high strength.

PROTECTIVE JACKETS

DART Aerospace Long Lines are available with Protective Jackets. Protective Jackets are made from durable UV resistant fabric and aerospace grade hook and loop fasteners. Refer to Table 3 for available options.

THIMBLES

DART Aerospace Thimbles are made of heavy-duty Stainless Steel. They are more corrosion resistant than steel thimbles. DART Aerospace thimbles comply with the Federal specification FF-T-276C and ASME B30.9. The Serial Number of the Long Line is also engraved on each thimble.

LIFTING RINGS

Pear-Shaped links are available with DART Aerospace Long Lines. The narrow end restricts movement and the wide end allows room to attach multiple connectors. They are made of steel and comply with ASME B30.9. Refer to Table 3 for available options.

ELECTRICAL WIRE

DART Aerospace Long Lines are available with electrical wire. They are CSA Certified and UL Listed. An additional 6 ft. (1.83 m) of wire is provided at each end for a total of 12 ft. (3.66 m) per Long Line. Refer to Table 4 for available options.

IDENTIFICATION TAG

DART Aerospace Long Lines are identified with two (2) ID tags attached with a lanyard to the end of each thimble. Each identification tag includes the following information: Part Number, Serial Number, Capacity, Length, and EIS Date (Entry Into Service Date MM/DD/YYYY).

CARRY BAG

DART Aerospace Long Lines are provided with a duffel bag 15" Wide X 30" Long X 10" Height (38cm Wide X 76cm Long X 25cm Height) with DART Aerospace Logo on it. The bag is water resistant.

1.6 PART NUMBER BREAKDOWN

DART Aerospace Long Lines are available with different options. Refer to the following tables for the part number designation.

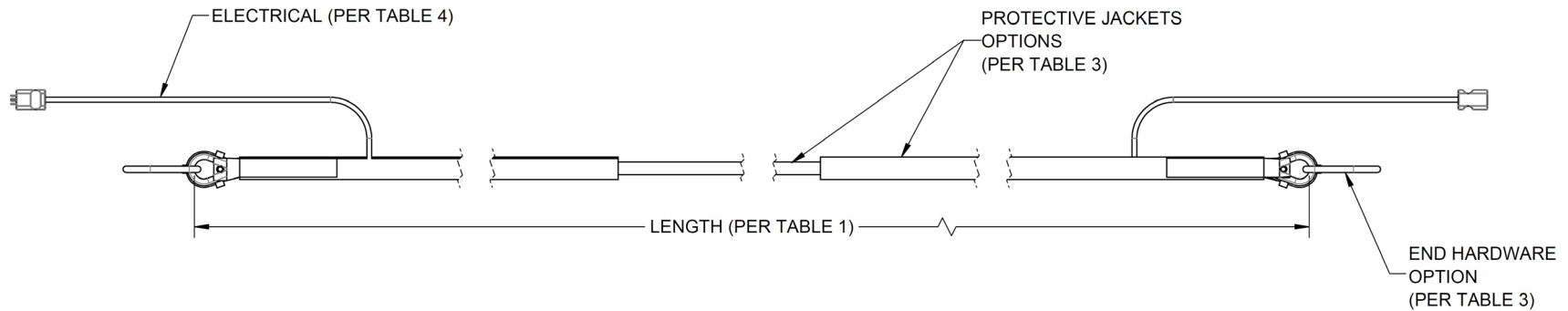


TABLE 1 LENGTH		TABLE 2 CAPACITY			TABLE 3 OPTIONS		TABLE 4 ELECTRICAL	
DART LONG LINE PART NUMBER CODE	DESCRIPTION	DART LONG LINE PART NUMBER CODE	CAPACITY		DART LONG LINE PART NUMBER CODE	OPTION DESCRIPTION	DART LONG LINE PART NUMBER CODE	ELECTRICAL WIRE DESCRIPTION
DALL-###-##	REPLACE FIRST # WITH LONG LINE TOTAL LENGTH IN FEET (MAX 200)	DALL-#-A-##	2500	1133	DALL-##-A-#	WITH PEAR SHAPED LIFTING RING END	DALL-###-A	3 CONDUCTOR 14 GA
		DALL-#-B-##	3000	1360	DALL-##-B-#	WITHOUT PEAR SHAPED LIFTING RING END	DALL-###-B	3 CONDUCTOR 12 GA
		DALL-#-C-##	4400	1995	DALL-##-C-F	WITH PEAR SHAPED LIFTING RING END, WITHOUT PROTECTIVE JACKETS AND WITHOUT ELECTRICAL WIRE	DALL-###-C	4 CONDUCTOR 14 GA
		DALL-#-D-##	5400	2449			DALL-###-D	6 CONDUCTOR 16 GA
		DALL-#-E-##	7300	3311			DALL-###-E	8 CONDUCTOR 16 GA
		DALL-#-F-##	9700	4399	DALL-##-D-F	WITHOUT PEAR SHAPED LIFTING RING END, WITHOUT PROTECTIVE JACKETS AND WITHOUT ELECTRICAL WIRE	DALL-###-F	NO ELECTRICAL
		DALL-#-G-##	13 200	5987			DALL-###-G	2 CONDUCTOR 14 GA
							DALL-###-H	2 CONDUCTOR 12 GA

DALL- (LENGTH per Table 1) - (CAPACITY P/N CODE per Table 2) - (OPTION P/N CODE per Table 3) - (ELECTRICAL P/N CODE per Table 4).

E.g.: DALL-100-A-A-A = DART Long Line, 100 Feet long, 2500 Lbs capacity, With pear shaped lifting ring, and 3 conductor 14 Gauge wire.

1.7 STANDARD LENGTHS & CUSTOMIZATION

DART Aerospace Long Lines are offered in a variety of standard lengths and configurations but are fully customizable; including adapting Long Lines for use with Water Buckets. For additional customization options, contact our sales department:

1270 Aberdeen St.
Hawkesbury, Ontario, Canada
K6A 1K7

1 800 556-4166 or 1 613 632-3336 or 1 613 632-5200

Fax 1 613 632-4443

Email: sales@dartaero.com

1.8 STANDARDS & SPECIFICATIONS MET

DART Aerospace DALL-#-#-# Long Lines with rope diameter 0.5in (1.3cm) (DALL-#-C-#-#) or greater meet the following standards/specifications:

- U.S. DOI (Department Of Interior) ARA No. 1406-08-80-ARA, Helicopter Synthetic Long Line Requirements
- Adheres to CARS and FARS regulation for Class B and Class C external load operations
- Cordage Institute Guidelines CI 1401-15, Recommended Safety Practices for Use of Fiber Rope
- Cordage Institute CI 1500-02, Test Method for Fiber Rope
- ASME B30.12-2011, Handling Loads Suspended From Rotorcraft

CHAPTER 2 – ASSEMBLY & DISASSEMBLY

2.1 ASSEMBLY

DART Aerospace Long Lines with protective jackets are shipped pre-assembled. If for any reasons (inspection, part replacement, minor repair, etc.) the long line must be assembled or disassembled the following steps must be followed. Assembly or disassembly operations must be done on a clean and flat surface.

Notes: Figure and item numbers listed in the Assembly / Disassembly section below refer to exploded views shown in the Illustrated Parts List (Section 6.3) in the manual.

1. If applicable, insert Electrical Wire(s) (Fig. 2, Item 5) into the Inner Protective Jacket (Fig. 2, Item 3). Center the wire between each end of the Inner Protective Jacket. Using the best industry standard technique, install 3 Prong Female Spade Plug (Fig. 2, Item 9) and 3 Prong Male Spade Plug (Fig. 2, Item 10) onto the bare Electrical Wire (Fig. 2, Item 5). Perform continuity check to ensure there is no short.
2. Lay the Inner Protective Jacket (Fig. 2, Item 3) flat on the floor. Ensure that the side facing-up (visible side) is the one with hook fasteners.
3. Place the Rope Assy (Fig. 2, Item 2) centered on the Inner Protective Jacket (Fig. 2, Item 3) at approximately 36" (91cm) from the end of the thimble.
4. Once the Rope Assy (Fig. 2, Item 2) and Electrical wire(s) (Fig. 2, Item 5) are in position, join the hook and loop fastener together by firmly pressing them along the whole length of the long line. Ensure that all mating faces are aligned.
5. At both ends of the Long Line, roll / wrap the Outer Protective Jacket (Fig. 2, Item 4) around the exposed Rope Assy (Fig. 2, Item 2) and the Inner Protective Jacket (Fig. 2, Item 3). The Inner Protective Jacket loop fastener must be aligned with the Outer Protective Jacket hook fastener. Ensure that the thimble holes and the Outer Protective Jacket holes are aligned before joining the Outer Protective Jacket hook and loop fastener together by firmly pressing them along the whole length of the Outer Protective Jacket.
6. At both ends of the Long Line, install one (1) Bolt (Fig. 2, Item 6), one (1) Flat Washer (Fig. 2, Item 7) thru the Outer Protective Jacket (Fig. 2, Item 4) hole and the thimble hole. Install one (1) Flat Washer (Fig. 2, Item 7) and one (1) Hex Nut (Fig. 2, Item 8) on the other side. The Hex Nut and Bolt must be tighten until they firmly contact the Outer Protective Jacket (ensure threads are in safety).

2.2 DISASSEMBLY

1. Unscrew Hex Nut (Fig. 2, Item 8) and Bolt (Fig. 2, Item 6)
2. Remove Flat Washers (Fig. 2, Item 7)
3. At both Long Line ends, unfasten the loop and hook fastener from the Outer Protective Jacket (Fig. 2, Item 4).
4. Unfasten the loop and hook fastener from the Inner Protective Jacket (Fig. 2, Item 3).
5. If applicable, remove Electrical Wire(s) (Fig. 2, Item 5) from the Inner Protective Jacket (Fig. 2, Item 3).

CHAPTER 3 – INSPECTION REQUIREMENTS

3.1 DEFECTS AND DAMAGE DESCRIPTION

HEAT

Heat has a direct effect on the ropes tensile strength. All synthetic ropes are affected by heat to some degree. Rope strength can be seriously decreased by heat exposure. The critical temperature of rope is the temperature at which 50% strength loss can occur. Glazed or glossy areas indicate damage and decreased strength. Even normal looking fibers adjacent to the visibly heat damaged areas have been damaged.

CHEMICALS AND DIRT

Chemicals and dirt can cause damage to rope. Keep ropes away from acids, bleach and solvents.

ULTRA VIOLET RADIATION

Ultra violet radiation damage is most commonly found when the rope is exposed to direct sunlight. The effect of UV exposure varies with the fiber type, protective coatings, rope size and rope construction. The larger the rope the less effect UV has on the strength since the UV radiation is absorbed in the outer layer. For the same reason jacketed ropes or ropes with surface coatings will retain their strength better. UV degradation of Long Lines is usually caused by improper storage.

SHOCK LOADS

Shock load is simply a sudden change in tension from a state of relaxation or low load to one of high load. Any sudden load that exceeds the workload by more than 10% is considered a shock load. The further an object falls, the greater the impact. Since synthetic fibers have memory, the effects of shock loading remain with time and can result in failure even when loaded within the normal range.

ABRASION

When the long line is first put into service the outer filaments of the rope will quickly fuzz up. This is the result of the filaments breaking; this roughened surface forms a protective cushion and shield for the fiber underneath. This condition should stabilize and not progress. If the surface roughness does not stabilize, increases, or excessive abrasion is taking place, the strength of the rope is being lost.

COMPACTED

Never step on rope, drive over rope or allow the helicopter to land on the rope. Long line ropes may become hard or compacted when crushed.

3.2 PRE-USE INSPECTION

DART Aerospace Long Lines must be visually inspected prior to each use. Disassembly is not required. Refer to Section 3.4 for inspection defects and damage limits. If any defects are observed during the pre-use inspection, a formal inspection must be completed.

WARNING: If ANY defects or damages are found during the PRE-USE Inspection, the FORMAL Inspection must be done.

WARNING: Long Line with MISSING ID tag must be removed from service until ID tag is replaced.

3.3 FORMAL INSPECTION

Formal inspection must be performed at a minimum of once per year (refer to ID tag for entry in service (EIS) date), or if any damage or defects have been found during the PRE-USE inspection.

Prior inspection, remove protective jacket retaining hardware and open the Inner & Outer Protective Jacket to facilitate the fiber rope access, per Chapter 2.

The entire length of the rope must be visually inspected by placing your thumbs approx. 3 in (7.6 cm) apart and pushing together to open/expand the rope. This procedure ensures that internal strands of the rope will be inspected.

Inspect the Long Line for damage, defects or excessive wear per Chapter 3.4.

The DART Aerospace Long Line FORMAL Inspection Sheet must be used for each FORMAL inspection.

The results of the inspection along with action(s) must be recorded onto the DART Aerospace Long Line FORMAL Inspection Sheet.

The overall results of the inspection must be recorded onto the DART Aerospace Long Line Log.

3.4 DEFECTS, DAMAGE LIMITS AND ACTION

DEFECTS / DAMAGE	DEFECTS / DAMAGE INSPECTION	DEFECTS / DAMAGE LIMITS	ACTION REQUIRED
HEAT	On the fiber rope, look for melting, glazing or glossy areas, it will make the rope affected area extremely stiff	Heat damage is unacceptable and strength of the rope is compromised	DART Long Line must be replaced
CHEMICALS	On the fiber rope, look for unusual discolorations. If the fiber rope has been exposed to chemicals the fiber rope will be brittle or stiff	Chemicals damage is unacceptable and strength of the rope is compromised	DART Long Line must be replaced
FIBER STRANDS CUT	On the fiber rope, look for internal and external cut strands. Fiber rope is made of 12-Strand braid construction and may become cut during the life of the Long Line	One strand cut spaced at an interval of 12 inches (30 cm) or greater is acceptable	Record damage on DART Long Line LOG
		Two or more adjacent strands cut or cuts spaced at less than 12 inches (30 cm) are unacceptable and strength of the rope is compromised	DART Long Line must be replaced
SHOCK LOADS	Shock load is a sudden change in tension from a state of relaxation or low load to one of high load during operation	Any sudden load that exceeds the workload by more than 10% is considered a shock load	DART Long Line must be replaced
COMPACTED	Fiber rope becomes hard or compacted	Compacted damage is unacceptable and strength of the rope is compromised	DART Long Line must be replaced
DIRT	Grit, mud, dirt and sand can work into the rope fibers and cause deterioration	Dirt is unacceptable and the Long Line must be disassembled and cleaned	Clean DART Long Line per Section 3.1
INCONSISTENT DIAMETER	On the rope, look for flat areas, bumps, or lumps	Inconsistent diameters are unacceptable and strength of the rope is compromised	DART Long Line must be replaced

DEFECTS / DAMAGE	DEFECTS / DAMAGE INSPECTION	DEFECTS / DAMAGE LIMITS	ACTION REQUIRED
ABRASION	Rope fiber surface roughness increase, outer filaments fuzz up or internal fiber are exposed	Outer filaments of the rope fuzz up is acceptable if it has stabilized	No action required
		Light external abrasion on the rope is acceptable if does not exceed 25% of the rope nominal diameter.	Record damage on DART Long Line LOG
		Internal fiber rope abrasion is unacceptable and strength of the rope is compromised	DART Long Line must be replaced
SPlice MOVEMENT	Splice movement (elongation of the thimble loop). (Ref: the "rope whipping" is installed at 1.5" from the base of the thimble)	Splice slippage under 2 inches (5 cm) is acceptable	Record damage on DART Long Line LOG
		Splice slippage of 2 inches (5 cm) and more is unacceptable and the strength of the rope is compromised	DART Long Line must be replaced
ULTRA VIOLET RADIATION	Protective Jacket discoloration may appear if exposed to ultra violet radiation	Light Protective Jacket discoloration is acceptable	No action required
		Heavy Protective Jacket discoloration is unacceptable and may contribute to rope deterioration.	Protective Jacket must be replaced
THIMBLES	Look for excessive wear, corrosion and cracks	Light wear and tear up to 0.030 inches (0.76mm) deep are acceptable	Blend smooth and record damage on DART Long Line LOG
		Cracks are unacceptable and strength of the DART Long Line is compromised	DART Long Line must be replaced

DEFECTS / DAMAGE	DEFECTS / DAMAGE INSPECTION	DEFECTS / DAMAGE LIMITS	ACTION REQUIRED
WIRING AND CONNECTORS	Inspect the electrical wire for continuity, damaged jacket, damaged connectors and excessive wear.	None	Replace wires and / or connectors
PROTECTIVE JACKETS	Look for tears, rips, holes, wearing of material.	Exposed fiber rope is unacceptable	Replace Protective Jacket
PROTECTIVE JACKETS HOOK AND LOOP FASTENER STITCHES	Looks for Hook and Loop stitches separation from the Protective Jacket	Damaged stitching less longer than 3 inches (7.6cm) is acceptable	Record damage on DART Long Line LOG
		Damaged stitching longer than 3 inches (7.6cm) is acceptable	Repair Hook and/or Loop fastener by stitching it to the respective Protective Jacket per ASTM D6193, Type 301, 6-10 stitches per inch (2.5 cm) OR Replace the Protective Jacket

3.5 MAJOR REPAIRS

All other repairs not mentioned in section 3.4 (such as splices or mechanical terminations) are considered Major repairs must only be and completed by DART Aerospace.

3.6 LONG LINE RETIREMENT

DART Aerospace Long Line must be taken out of service after a maximum of 5 years from the Entry Into Service (EIS) date. Retirement must also be based on conditions as specified by the Damage Limits (Section 3.4).

CHAPTER 4 – MAINTENANCE AND STORAGE

4.1 CLEANING

Grit, mud, dirt and sand will contribute to accelerated rope fiber deterioration. It also becomes difficult to inspect for any debris that has worked inside the ropes fibers. Therefore, it is important to keep the rope clean.

CAUTION: Keep the DART Aerospace Long Line away from solvents, gas, diesel fuel, dirty water, saw dust and any foreign materials that may damage the rope.

DO NOT wash the rope or cover with harsh detergents

DO NOT wrap or tie tape or adhesive products directly to the UHMWPE rope.

ROPE

UHMWPE Rope must be cleaned by hand with cold water and mild soap only. Rinse thoroughly and then air-dry in a cool ventilated area.

INNER & OUTER JACKETS

Jackets must be cleaned by hand with cold water and mild soap only. Rinse thoroughly and then air-dry in a cool ventilated area.

ELECTRICAL WIRE

Electrical wire must be wiped with a clean microfiber wiping cloth.

4.2 STORAGE

In addition to keeping the rope away from heat, DART Aerospace Long Lines should be stored clean and dry, and out of direct sunlight. DART Long Lines should be stored coiled in its carry bag away from chemicals. If ropes are wet, ideal storage is off the floor on racks to provide ventilation. Never store rope on concrete or dirty floors. Grit from dirt can abrade and weaken rope fiber. Acid is often used in concrete work and can remain on the surface. Abrasive surfaces should also be avoided. Ensure that it is not compressed or exposed to damage from sharp or heavy objects.

CHAPTER 5 – LIMITED WARRANTY

5.1 LIMITED WARRANTY

DART Aerospace warrants to the original customer and or owner, that the product will be free from defects in workmanship and materials, under normal use and services for which each product is intended for the warranty periods listed below from the date of delivery. Warranty shall be granted provided the product has been transported, stored, protected, unloaded, maintained and operated strictly in accordance with DART Aerospace's instructions and/or manuals and that no unauthorized repairs have been attempted. The DART Aerospace warranty stated herein is intended for new products and aftermarket services sold through DART Aerospace or its Subsidiaries (Authorized Service Center or Authorized Distributors). Internal components installed and manufactured from other manufacturers are not covered by DART Aerospace and are subject to OEM warranties. DART Aerospace reserves the right to evaluate the product and determine if the unit is subject to warranty.

New Product Sale:

The period of warranty for new product sales is One (1) calendar year from the date of delivery to the customer.

Services:

The period of warranty for Repair, Overhaul, or Exchange Services is Six (6) calendar months from the date of delivery to the customer.

CHAPTER 6 – ILLUSTRATED PARTS LIST

6.1 GENERAL

This illustrated parts list (IPL) contains the complete listing of all replaceable and non-replaceable parts of the DART Aerospace Long Line.

The illustrated parts list contains exploded views of general and main sub-assemblies separated in figures. Each exploded view is followed by specific parts list containing part numbers, description, effectivity and the total quantity of each part in this assembly.

DART Aerospace Long Line Part Number is generic (DALL-#-#-#). Refer to Chapter 1, Section 1.6 to complete the part number sequence.

6.2 HOW TO USE THE PART LIST

1. Refer to the illustration and find the part(s) item(s) number(s)
2. Refer to the corresponding item(s) number(s) in the parts list.

Effectivity (EFF) column:

Effectivity is the top level applicable reference listed in the illustrated parts list figure.

Where there is no effectivity letter in the effectivity column, the part number is applicable to all reference effectivity listed on the top of the figure.

If an item number has a dash (-) in front of it, this item is not shown on the mentioned figure.

6.3 ILLUSTRATED PARTS LIST

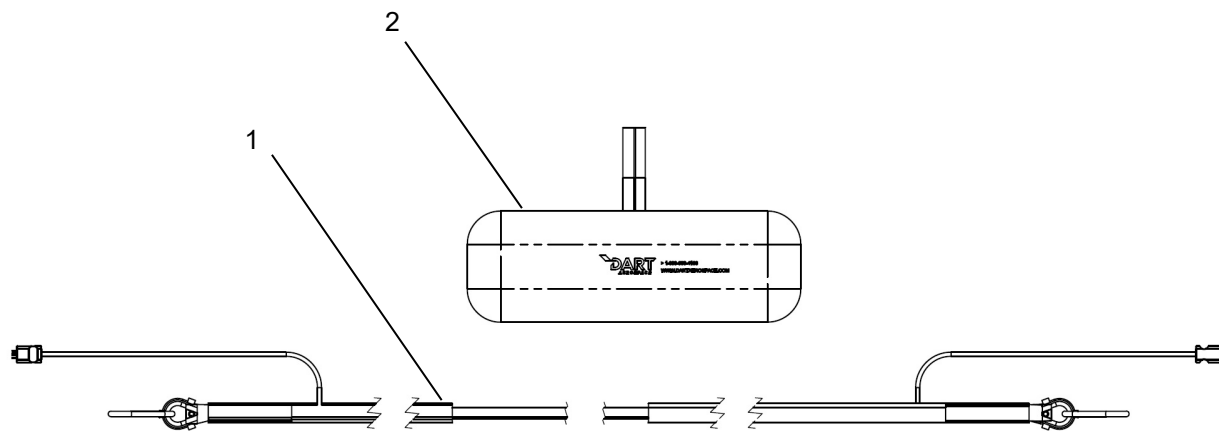


Figure 1 – DART Aerospace Long Line KIT

Fig. Item	PART NUMBER	DESCRIPTION	EFF.	QTY
1				
1	DALL-#-A-#-#	DART AEROSPACE LONG LINE, CAPACITY 2500LBS/1133KG	A	N/A
-1A	DALL-#-B-#-#	DART AEROSPACE LONG LINE, CAPACITY 3000LBS/1360KG	B	N/A
-1B	DALL-#-C-#-#	DART AEROSPACE LONG LINE, CAPACITY 4400LBS/1995KG	C	N/A
-1C	DALL-#-D-#-#	DART AEROSPACE LONG LINE, CAPACITY 5400LBS/2449KG	D	N/A
-1D	DALL-#-E-#-#	DART AEROSPACE LONG LINE, CAPACITY 7300LBS/3311KG	E	N/A
-1E	DALL-#-F-#-#	DART AEROSPACE LONG LINE, CAPACITY 9700LBS/4399KG	F	N/A
-1F	DALL-#-G-#-#	DART AEROSPACE LONG LINE, CAPACITY 13 200LBS/5987KG	G	N/A
2	DALL-#-#-#-21	DART AEROSPACE BAG		1
-3	DALL-#-#-#-1	DART AEROSPACE LONG LINE (SEE FIGURE 2 FOR ADDITIONAL DETAIL)		1
-4	1632T22	ID TAG		2
-5	90905A673	SPLIT RING		2

-ITEM NOT ILLUSTRATED

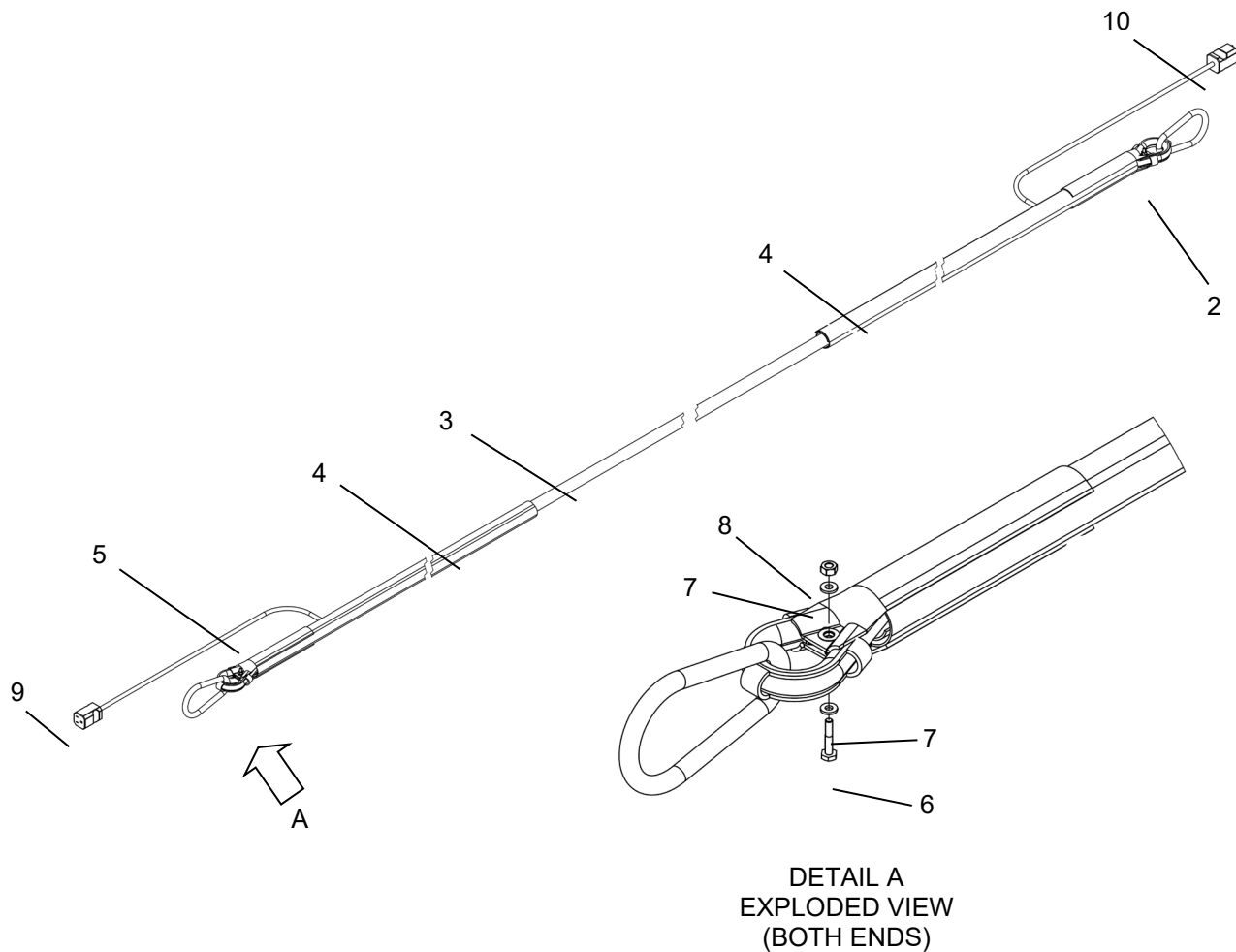


Figure 2 – DART Aerospace Long Line Assembly

Fig. Item	PART NUMBER	DESCRIPTION	EFF.	QTY
2				
-1	DALL-###-A-1	DART AEROSPACE LONG LINE ASSY	A	N/A
-1A	DALL-###-B-1	DART AEROSPACE LONG LINE ASSY	B	N/A
-1B	DALL-###-C-1	DART AEROSPACE LONG LINE ASSY	C	N/A
-1C	DALL-###-D-1	DART AEROSPACE LONG LINE ASSY	D	N/A
-1D	DALL-###-E-1	DART AEROSPACE LONG LINE ASSY	E	N/A
-1E	DALL-###-F-1	DART AEROSPACE LONG LINE ASSY	F	N/A
-1F	DALL-###-G-1	DART AEROSPACE LONG LINE ASSY	G	N/A
-1G	DALL-###-H-1	DART AEROSPACE LONG LINE ASSY	H	N/A
-1H	DALL-###-C-F-1	DART AEROSPACE LONG LINE ASSY	J	N/A
-1J	DALL-###-D-F-1	DART AEROSPACE LONG LINE ASSY	K	N/A
2	DALL-###-2	ROPE ASSY		1
3	DALL-###-8	INNER PROTECTIVE JACKET	A,B,C, D,E,F, G,H	1
4	DALL-###-14	OUTER PROTECTIVE JACKET	A,B,C, D,E,F, G,H	2
5	DALL-###-20	ELECTRICAL WIRE	A,B,C, D,E,G, H	1
6	AN3C10A	BOLT	A,B,C, D,E,F, G,H	2
7	NAS1149C063R	FLAT WASHER	A,B,C, D,E,F, G,H	4
8	MS21044C3	HEX NUT	A,B,C, D,E,F, G,H	2
9	PS5969Y	3 PRONG FEMALE SPADE PLUG (ALTERNATIVE P/N: 7216K6)	A,B, G,H	2
10	PS5965Y	3 PRONG MALE SPADE PLUG (ALTERNATIVE P/N: 7216K5)	A,B, G,H	2

-ITEM NOT ILLUSTRATED

APPENDIX A: TECHNICAL DATA

UHMWPE ROPE TECHNICAL INFORMATION

Specific Gravity	0.97
Melting Point	290 – 310° F (144 – 155° C)
Elongation At Break	3.5 %
Abrasion resistance	Excellent
Creep resistance	Good
UV Resistance	Very Good
Not affected by water	
Good resistance to acids and alkalis	

Reference: SupreemX-12 Dyneema Fibre Data Sheet

APPENDIX B: DART AEROSPACE LONG LINE FORMAL INSPECTION SHEET

**DART AEROSPACE LTD.**

1270 Aberdeen Street
Hawksbury, ON, K6A 1K7
CANADA

Tel: 1 613 632 5200

Fax: 1 613 632 5246

e-mail: support.ON@dartaero.com

http://www.dartaerospace.com

DART Aerospace Long Line FORMAL Inspection Sheet**DART Aerospace Long Line Information**

Part Number: _____

Serial Number: _____

EIS Date (MM/DD/YY): _____

DART Aerospace Long Line FORMAL Inspection

Refer to Component Maintenance Manual CMM-T-0001 latest revision, Section 3.4 Defects, Damage limits and Action for complete description and applicable actions required.

DEFECTS / DAMAGE	PASS	FAIL	ACTION REQUIRED
Heat			
Chemicals			
Fiber Strands Cut			
Shock Loads			
Compacted			
Dirt			
Inconsistent Diameter			
Abrasion			
Splice Movement			
Ultra Violet Radiation			
Thimbles			
Wiring And Connectors			
Protective Jackets			
Protective Jackets Hook And Loop Fastner Stitches			

DART Aerospace Long Line Disposition
☐ The Long Line has been repaired or cleaned as necessary and is fit for continued service.

☐ The Long Line is damaged beyond repair and must be replaced.

Inspection Date: _____

Inspector Name: _____ Signature: _____

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Revision: **B**
Date: 04.04.19

APPENDIX C: DART AEROSPACE LONG LINE LOG

**DART AEROSPACE LTD.**

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e-mail: support.ON@dartaero.com

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DART Aerospace Long Line LOG**DART Aerospace Long Line Information**

Part Number: _____

Serial Number: _____

EIS Date (MM/DD/YY): _____

DART Aerospace Long Line Inspection LogIf a fail is indicated the Long Line must be replaced.

Inspection Date:		Inspection Results:	PASS	
Inspected By:			FAIL	
Comments:				
Inspection Date:		Inspection Results:	PASS	
Inspected By:			FAIL	
Comments:				
Inspection Date:		Inspection Results:	PASS	
Inspected By:			FAIL	
Comments:				
Inspection Date:		Inspection Results:	PASS	
Inspected By:			FAIL	
Comments:				
Inspection Date:		Inspection Results:	PASS	
Inspected By:			FAIL	
Comments:				
Inspection Date:		Inspection Results:	PASS	
Inspected By:			FAIL	
Comments:				

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Revision: **B**
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